

Hints for Stakeholder Coordination

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Software Process Improvement (SPI) Project



Purpose and Objectives

- **Purpose:** Review the overall approach to planning, monitoring and controlling stakeholder coordination throughout your project
- **Objective - After this session you should know:**
 - Who your stakeholders may be
 - How to plan for stakeholder coordination
 - Approaches to monitoring and controlling stakeholder coordination
 - The kind of records to keep for stakeholder coordination
 - Some pitfalls associated with stakeholder coordination

For CMMI Maturity Level 2 stakeholder involvement in key activities must be planned, monitored, and controlled.

What Is A Stakeholder?

■ Dictionary definition

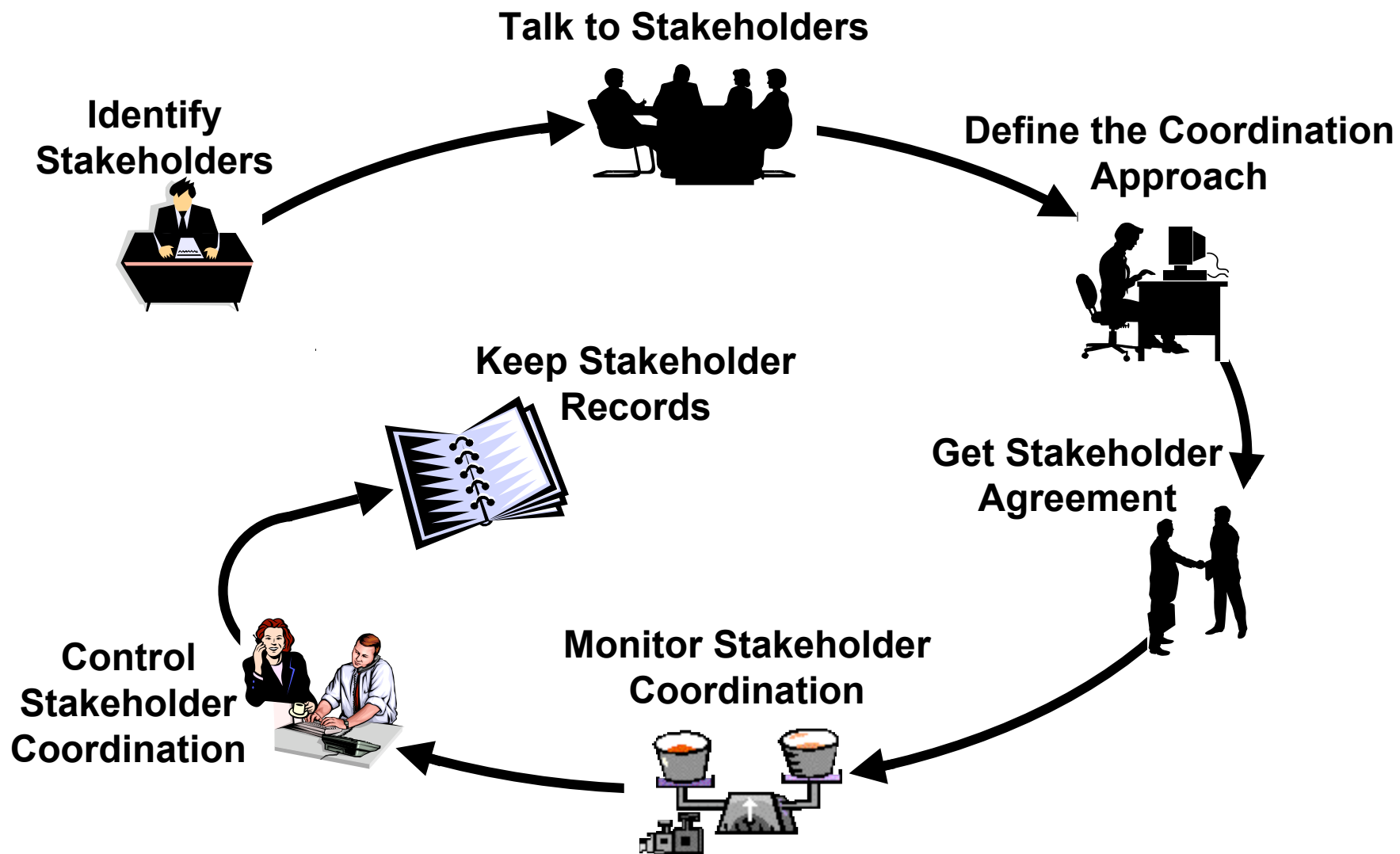
- One who has an interest or share in a commercial undertaking

■ CMMI definition

- Stakeholder: Those affected by or accountable for the outcome of your project.
- Relevant stakeholder: a stakeholder that is identified for involvement in specified activities and is included in an appropriate plan

View your relevant stakeholders as those who influence, or are influenced by, some aspect of the project.

How Do You Keep Stakeholders Involved?





Identify the Stakeholders

- **Look for relevant stakeholders who are**
 - Users of outputs from the project
 - Suppliers of inputs to the project
 - Performers of activities within the project processes
- **Relevant external stakeholders may include**
 - Suppliers (contractors, vendors)
 - Mission Project and interfacing subsystems
 - End Users and Operations Staff
- **Relevant internal stakeholders may include**
 - Software project members (testers, developers, etc.)
 - Your management



Talk to the Stakeholders

- Talk with stakeholders early in planning
- Find out what the stakeholder needs from you
- Discuss what you need from the stakeholder
- Find out ...
 - How much time they can provide
 - What areas they need to be involved in
 - What their priorities are
 - What their preferred coordination approach is
 - If the approach and time available will be adequate for your needs
- Negotiate for what you need



Define the Coordination Approach

- Identify ways to keep each stakeholder involved, such as
 - Meetings and telecons, with minutes (*yours or theirs*)
 - Internal project process meetings, including a Project Orientation Meeting to review project processes
 - Formal or informal reviews
 - Documentation review
 - Status Reports and Action Item lists
 - Email messages, Briefing Messages, letters, or memos
- Map stakeholders to the defined approaches and identify artifacts to be collected
 - May need different artifacts for different stakeholders
 - Use existing artifacts (e.g., meeting attendance by “expected attendees” or roles)
- Assess any risks associated with insufficient or excessive stakeholder involvement
- Document the coordination approach in SMP/PP for Class B/C, Section 3.3.4



Stakeholder Coordination – SMP/PP Documentation

- Purpose and rationale for stakeholder's involvement
- Importance to the project
- Authority and responsibility of the external stakeholder
- Responsibility on both sides of an interface, such as
 - Flight software to the flight hardware for working compatibility issues
 - Ground Data System to the Flight Operations Team for acceptance of the system
 - PDL to line management
 - PDT to Safety and Mission Assurance, IV&V, and ITA
- How stakeholder involvement will be monitored and documented (e.g., by publishing expected attendees at reviews/walkthroughs and recording attendance)
- Other project effort or materials needed to ensure the stakeholder involvement (e.g. briefings to stakeholders, walkthroughs, hardcopies of review materials)



Stakeholder Coordination – SMP/PP Template Example



| Project Development Team Activity | [Stakeholder A] | [Stakeholder B] | [Stakeholder C] | [Stakeholder D] |
|--|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| [Name or brief description of activity X] | [Rationale, Responsibility, etc.] | | [Rationale, Responsibility, etc.] | |
| [Name or brief description of activity Y] | | [Rationale, Responsibility, etc.] | | |
| [Name or brief description of activity Z] | | | | [Rationale, Responsibility, etc.] |



Stakeholder Coordination – FSW Template Example

| [Mission Name] FSW Stakeholder Process Involvement Table | | [Mission Name] FSW Team | | | | | | | SI FSW Teams | | | Project, Branch and IV&V | | | | | |
|---|--|--------------------------------------|------------------------------|--------------------------|---------------------------|--------------------------------------|-------------------------------------|--------------------------------|-----------------------------|-----------------------------|-----------------------------|--------------------------|--------------------------|---------------|-------------------------|-------------------|----------------------|
| | | FSW Manager/Systems Engineering Lead | FSW Product Development Lead | FSW ACS Lead or Designee | FSW C&DH Lead or Designee | FSW Configuration Management Officer | Software Quality Assurance Engineer | FSW Test Team Lead or Designee | SI#1 FSW Management or rep. | SI#2 FSW Management or rep. | SI#n FSW Management or rep. | Project Management | Project Systems Engineer | GN&C Engineer | Ground Systems Engineer | Branch Management | IV&V Program Manager |
| Process Areas | FSW Team Activities | | | | | | | | | | | | | | | | |
| Requirements Management | | | | | | | | | | | | | | | | | |
| | Meeting with customers to understand requirements | R | S | S | S | | | | S | S | S | R | S | S | S | | |
| | Documenting requirements | R | S | S | S | | | | S | S | S | S/R | S | S | S | S | |
| | Requirement Documents Walkthroughs | R | S | S | S | | | | S | S | S | S | S | S | S | S | S |
| | Obtaining Requirements Approval | R | S | S | S | | | | | | | S | A | A | A | S | |
| | Requirements Reviews | R | R | S | S | | | S | S | S | S | S | S | S | S | S | |
| | Disposition of Requirements RFAs | S | R | S | S | | | S | | | | | | | | | |
| | Establishing Bi-directional traceability matrix | R | R | R | R | | | S | | | | | | S | | | |
| | Requirements changes evaluated | R | R | S | S | | | S | S | S | S | S | S | S | S | S | |
| Project Planning | | | | | | | | | | | | | | | | | |
| | Product Plan generation | S | R | S | S | | | S | S | S | S | S | S | | | S | |
| | Product Plan Approval/Baseline | A | R | S | S | | | | | | | A | | | | A | |
| | Team Walkthrough | S | R | R | R | | | S | | | | | | | | | |
| | Replan | S | R | S | S | | | S | | | | S | S | | | S | |
| Project Monitoring & Control | | | | | | | | | | | | | | | | | |
| | Assure receivables/deliverables are on schedule | S | R | R | R | S | | R | | | | S | | | | S | |
| | Review & update budget and effort against plan | S | R | S | S | | | S | | | | A | | | | A | |
| | Review & update risks | R | R | S | S | | S | S | | | | S | S | | | S | |
| | Conduct progress And Milestone reviews; track and resolve RFAs | S | R | S | S | | | S | | | | A | S | | | A | |
| Configuration Management | | | | | | | | | | | | | | | | | |
| | Generation of Configuration Management Plan | S | R | S | S | S | | S | | | | S | | | | S | |
| | Configuration Management Plan Approval/Baseline | A | R/A | A | A | A | | A | | | | A | | | | A | |



Get Stakeholder Agreement

- **Get appropriate stakeholders to review documented plans**
- **Get stakeholder agreement on coordination plan**
- **Address stakeholder comments and record approvals**
- **Negotiate and iterate until stakeholders have approved and committed to the required coordination**



Monitor Stakeholder Coordination

- **Identify records for stakeholder coordination, such as**
 - Meeting attendance and minutes
 - Review attendance and minutes
 - Documented review comments or signed review sheet
 - Status report distribution lists
 - Action item status
 - Emails and Briefing Messages cataloged by stakeholder group
- **Collect and store stakeholder coordination artifacts**
- **Use artifacts to assess coordination relative to your plan and to evaluate risk**



Control Stakeholder Coordination

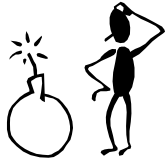
- **Assess effectiveness of coordination**
 - Verify that information sharing is happening
 - Verify that agreements are being reached
 - Verify that commitments are being honored
- **Take corrective action where coordination is not adequate**
 - Talk to stakeholders to determine the problem cause
 - Modify approaches to improve coordination
 - Take stakeholder coordination into your hands with regular communication
 - Escalate real problem areas to management
- **Report coordination status to management with other status**



Keep Stakeholder Records

Products of stakeholder coordination that should be kept in the project data stores:

- **Stakeholder plan in SMP/PP**
 - List of stakeholders
 - Stakeholder matrix with coordination approaches
 - List of planned stakeholder coordination artifacts
- **Key commitments (emails, sign-offs)**
- **Stakeholder monitoring artifacts collected, such as**
 - Minutes from stakeholder agreement meetings
 - Review comments and approvals
 - Formal/informal review presentations/minutes/attendees
 - Training presentations/attendees
- **Stakeholder coordination analyses**
- **Stakeholder coordination status reports**



Watch Out for the Pitfalls

- Not including important stakeholders
- Having too many different meetings or reviews to cover the stakeholders
- Not using existing artifacts to track coordination
- Not following up on commitments to or from stakeholders
- Stakeholders who are focused on other things and too busy for your project
- The fine line between pushing coordination and becoming a pest



How Do *You* Work With Stakeholders?

- **Assume you're involved in a software development project for a specific Mission.**
 - **Who are your stakeholders likely to be?**
 - **What are some of the ways you would coordinate with these stakeholders?**
 - **How would you track the coordination?**



Summary

- Know who all of your stakeholders are
- Get their support and participation early
- Define and document your coordination process
- Plan for stakeholder coordination artifact collection and analysis
- Get stakeholder approval of the coordination plan and commitments for participation
- Track the stakeholder coordination
- Make sure the stakeholder coordination is effective

And remember ... you, too, are somebody's stakeholder, so be responsive

Questions?

July 7, 2005 – Using the website <http://software.gsfc.nasa.gov/>

Find tools

Locate training and experts

Use approved process assets

See Engineering process group (EPG) Contacts

Get measurement info

See lessons learned

The screenshot shows the main page of the GSFC Software Development Process Improvement website. It features a navigation bar with links: + GSFC SW IMPROVEMENT, + PROCESS ASSETS LIBRARY, + TRAINING, + TOOLS, + MEASURES, and + LESSONS LEARNED. Below the navigation bar, there is a 'Welcome' section and a 'News and Upcoming Events' section. The website is titled 'GSFC Software Development Process Improvement' with the tagline 'If the Process Works...Improve It.'.

Use search function to find assets

Click asset name to get asset PDF

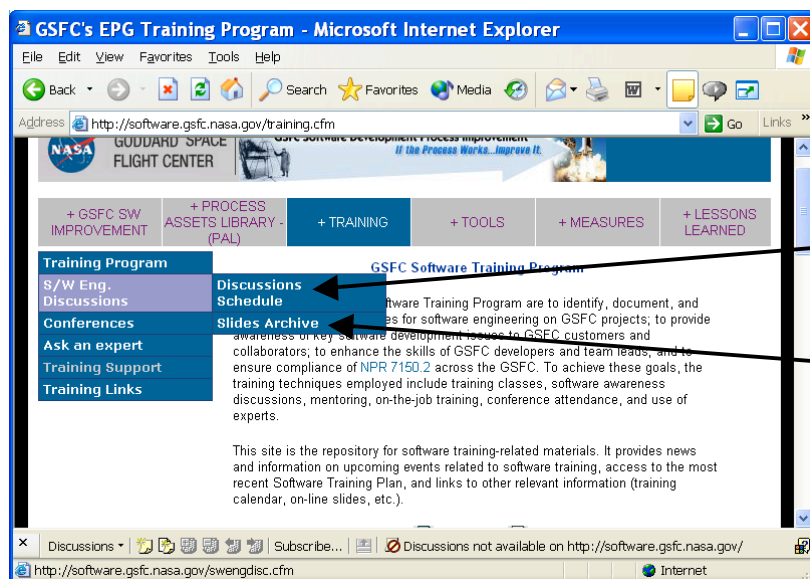
Click "?" to get feedback form

Click icons for desired files

The screenshot shows the 'Process Assets Approved' page, which displays a table of assets. The table has columns for Asset Number, Document Number, Title, Owner, Asset Type, Status (More Info), MS Office, and PDF. The table lists several assets, including 'ISD Software Policies', 'ISD Project Planning Process', 'ISD Software Project Estimation', 'Wide Band Delphi Procedure', and 'SW Warehouse Life Cycle'. Annotations point to the search function, the asset names, the feedback form icon, and the file icons.

| Asset Number | Document Number | Title | Owner | Asset Type | Status (More Info) | MS Office | PDF |
|--------------|-----------------|---------------------------------|-------|------------|--------------------|--------------|-----|
| 1.0.0.1 | 580-PL-002 | ISD Software Policies | ? | 580 | Policy | CCB approved | |
| 1.2 | 580-PC-004-01 | ISD Project Planning Process | ? | 580 | Process | CCB approved | |
| 1.2.1 | 580-SP-026-01 | ISD Software Project Estimation | ? | 580 | Guideline | CCB approved | |
| 1.2.1.2 | 580-PR-016-01 | Wide Band Delphi Procedure | ? | 580 | Procedure | CCB approved | |
| 1.2.2.1.1 | | SW Warehouse Life Cycle | ? | 582 | Guideline | CCB approved | |

Accessing Presentation Slides From the Website



For SW Engineering Discussions ...
Click "Training" and highlight
"S/W Eng. Discussions"

Access SW Engineering Discussion schedule:
(<http://software.gsfc.nasa.gov/swengdisc.cfm>)

Access slides from past SW Engineering
Discussions:
(<http://software.gsfc.nasa.gov/swengdisc.cfm>)

For Other On-Line Slides...
Click "Training" and highlight
"Training Program"

Access slides from multiple
NASA centers

